



AGRICULTURAL PRODUCTS UTILIZATION COMMISSION

GRANT REPORT 2012-2014

SUPPORTING THE DAWN OF A NEW AGE IN AGRICULTURE

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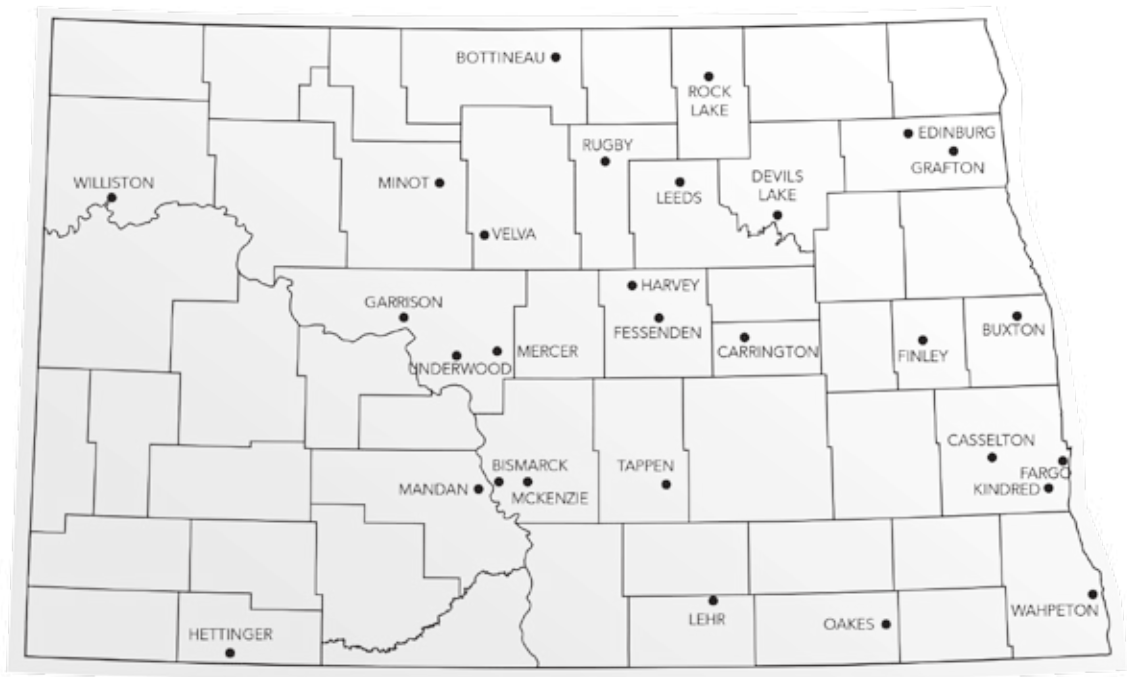
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A close-up photograph of a soybean plant. The image shows several large, green, oval-shaped leaves with prominent veins. Below the leaves, several green, elongated soybean pods are visible, some showing fine hairs. The background is a bright blue sky with soft, white clouds. The overall lighting is natural and bright, suggesting a sunny day.

MISSION

The Agricultural Products Utilization Commission creates new wealth and jobs through the development of new and expanded uses of North Dakota agricultural products.

Between December 2012 and December 2014, APUC funded 62 projects in 29 North Dakota communities, totaling over \$2.7 million in grants and sponsorships.



APUC is an office within Economic Development and Finance, a division of the North Dakota Department of Commerce.

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| <ul style="list-style-type: none"> • Bismarck - United Pulse Trading • Bismarck - Earth Kind • Bismarck - North Dakota FFA Foundation • Bottineau - Aspen Aquaponics • Buxton - Cummings Ag • Carrington - NDSU Carrington Research Extension Center • Casselton - Northern Food Grade Soybean Association • Casselton - Maple River Distillery • Devils Lake - Ultra Green Packaging • Edinburg - Pembina/Walsh County Livestock Processing Committee • Fargo - c2renew • Fargo - Dakota Speciality Milling • Fargo - Great Plains Processing • Fargo - Golden Growers Cooperative • Fargo - NDSU Agriculture & Biosystems Engineering • Fargo - NDSU Department of Animal and Range Sciences • Fargo - NDSU Department of Plant Sciences | <ul style="list-style-type: none"> • Fargo - NDSU Department of Veterinary & Microbiological Science • Fargo - NDSU Department of Coatings and Polymeric Materials • Fargo - NDSU Extension Service • Fargo - Napasol North America • Fargo - Northern Corn Development Corporation • Fargo - North Dakota Corn Utilization Council • Fargo - Prairie Roots Food Cooperative • Fargo - Renuvix • Fessenden - Fessenden Co-op Association • Finley - Woodshed Renewables • Garrison - Bio-Sunn Corporation • Grafton - Red River Regional Council • Harvey - Amberland Foods • Hettinger - Trojan Hoist Company • Kindred - Red Barn & Berry Farm • Leeds - Stuber Ranch | <ul style="list-style-type: none"> • Lehr - Buchholz Machine Tool • Mandan - BisMan Community Food Cooperative • Mandan - Cloverdale Foods Company • McKenzie - Black Leg Ranch • McKenzie - Rolling Plains Adventures • Mercer - Morning Joy Farm • Minot - Crunchfuls North Dakota • Oakes - Endless Harvest • Rock Lake - Crocus View Farms • Rugby - Very Berry Patch U-Pick • Tappen - Bryan and Karri Stroh • Underwood - Blue Flint Ethanol • Velva - Velva Community Development Corporation • Wahpeton - WCCO Belting • Williston - WADF 03 • Williston - Williston Regional Economic Development Corporation |
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APUC COMMISSIONERS



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Governor's Appointee



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Commissioner's Appointee



Bill Kingsbury
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*Economic Development and
Finance Division Representative*



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Dean Bresciani
NDSU President



Doug Goehring
Agriculture Commissioner



Keith Peltier
Governor's Appointee

ADMINISTRATION

The North Dakota Agricultural Products Utilization Commission (APUC) consists of nine members. The governor appoints five members to two-year terms. Three of these appointees must be actively engaged in farming and two must be actively engaged in business. The Commissioner of Agriculture appoints one member to a two-year term. This member must also be actively involved in farming. All terms begin July 1.

The board also includes three statutory members or their designees:

Paul Lucy, Director

Economic Development and Finance Division,
North Dakota Department of Commerce

Dean Bresciani, President

North Dakota State University

Doug Goehring, Commissioner

North Dakota Department of Agriculture

APUC STAFF



LaTosha Pierce
Program Assistant



John F. Schneider
Executive Director



BASIC & APPLIED RESEARCH GRANTS

Basic & Applied Research Grants assist in research for processing agricultural products and by-products in North Dakota. These grants cannot be aimed at business expansion or creation without regard to agricultural products, must not include research that cannot reasonably be expected to result in a marketable product, or cannot have been duplicated by other research efforts.

NDSU Department of Plant Sciences*Marcelo Carena, Fargo*

Grant Amount: \$ 75,000

Total Budget: \$ 150,000

Funds will be used for research through graduate student salaries, travel, winter nurseries, seed increases and releases of marketable inbred and hybrid varieties to expand utilization of NDSU plant products, improving the future of the agricultural economy of the state.

NDSU Agriculture & Biosystems Engineering*Sreekala Bajwa, Fargo*

Grant Amount: \$ 38,612

Total Budget: \$ 55,612

Research will explore the feasibility of using flax fiber as a replacement for glass fiber in the Thermo-Lite product line produced by SpaceAge Synthetics.

NDSU Carrington Research Extension Center*Mike Ostlie, Carrington*

Grant Amount: \$ 64,320

Total Budget: \$ 75,570

Funds will be used to examine the potential use of energy beets for bioremediation of saline soils. Energy beets are among the most salt tolerant crops available in the Midwest.

NDSU Carrington Research Extension Center*Mike Ostlie, Carrington*

Grant Amount: \$ 35,200

Total Budget: \$ 47,117

Funds will be used to support agronomy research technicians and student assistants to carry out the day-to-day tasks of the research to explore the potential for bioremediation of marginal and saline regions using industrial beets, while utilizing the product as a livestock feed. Funding will also support research materials and supplies, soil and leaf sample analysis, travel to the off-station locations and meetings to present the results.

NDSU Department of Animal and Range Sciences*Kimberly Vonnahme, Fargo*

Grant Amount: \$ 33,800

Total Budget: \$ 49,010

Maternal nutrition during pregnancy can impact the growth and development of calves after birth. The precursor for optimal growth is adequate placental growth and development. This study will evaluate placental tissues from cows fed varying amounts of feed throughout gestation and determine how her intake impacts the growth and nutrient carrying capacity of her placenta.

NDSU Department of Animal and Range Sciences*Chung Park, Fargo*

Grant Amount: \$ 50,000

Total Budget: \$ 80,000

Funding will be used to study the role of nutrition in mammary cancer development. Studies revolve around investigating the effect of dietary canola oil and lipotropic nutrients in breast cancer development and growth.

NDSU Department of Coatings and Polymeric Materials

Andriy Voronov, Fargo

Grant Amount: \$ 87,792
 Total Budget: \$ 126,859

This project will employ an innovative inter-disciplinary approach to develop a novel next-generation vaccine against Swine Influenza Virus (SIV). The targeted methods have broad applicability to other economically important viral vaccines for farm animals as well as human influenza.

NDSU Department of Plant Sciences

Wenhao Dai, Fargo

Grant Amount: \$ 34,265
 Total Budget: \$ 49,683

Production of raspberries and blackberries in the northern Great Plains is limited due to lack of cultivators that are adapted to the harsh winters. In recent years, a few raspberry and blackberry cultivators with high quality fruits and moderate to good winter hardiness have been released. These cultivators have the potential to be used as cultivators or germplasm for future breeding of raspberries and blackberries. Overall, this project has a great potential to increase production of small fruits, which will benefit North Dakota small fruit producers.

NDSU Department of Plant Sciences

Harlene Hatterman-Valenti, Fargo

Grant Amount: \$ 33,100
 Total Budget: \$ 96,933

Funding will provide research to enhance the grape germplasm currently available to North Dakota wineries and provide new grape varieties capable of adapting to the cold climates of the state while producing high quality wine. Funds will be used for salaries, supplies, travel and greenhouse rental fees.

NDSU Department of Plant Sciences

Clifford Hall, Fargo

Grant Amount: \$ 54,183
 Total Budget: \$ 72,244

To ensure product safety to food manufacturers, ingredient suppliers increasingly may be required to heat process a product to eliminate microorganisms. This project will focus on determining the impact of the heat processing on the shelf life of flaxseed.

NDSU Department of Veterinary & Microbiological Science

Teresa Bergholz, Fargo

Grant Amount: \$ 83,765
 Total Budget: \$ 130,565

Funds will be used to increase understanding of microorganism’s heat resistance in various low moisture environments. Research will help protect the food industry from the negative effects of pathogenic contamination and food recalls.

NDSU Department of Veterinary & Microbiological Science

Sheela Ramamoorthy, Fargo

Grant Amount: \$ 56,483
 Total Budget: \$ 85,950

Funding will be used to purchase reagents, supplies and animals for the development and testing of the vaccine against Porcine Epidemic Diarrhea Virus (PEDV). PEDV is the cause of severe diarrhea and high mortality in piglets. Since its discovery in May 2013, PEDV has spread to over 20 states and caused an estimated loss of 3-5 million pigs. Funds will also partially support the salaries of the project personnel.

NDSU Department of Veterinary & Microbiological Science

Birgit Pruess, Fargo

Grant Amount: \$ 76,140

Total Budget: \$ 101,520

Funding will aid research for the prevention of bacteria transmission from an animal carcass to food processing equipment. The process of infusing inhibitors into food processing equipment materials may prevent biofilm formation and transmission of the pathogen.

North Dakota Corn Utilization Council

Tom Lilja, Fargo

Grant Amount: \$ 100,000

Total Budget: \$ 1,100,000

Funding will be used for initial staff salaries, genotyping equipment, travel and services related to the site selection of a National Agricultural Genotyping Center. The North Dakota Corn Utilization Council believes that North Dakota meets and exceeds the national laboratory's site selection criteria. The Research and Technology Park adjacent to NDSU in Fargo makes an ideal location with its 14 public crop breeding programs and sophisticated Biosafety Level 3 greenhouse facilities.

Northern Corn Development Corporation

Kevin Skunes, Fargo

Grant Amount: \$ 35,000

Total Budget: \$ 80,000

Funding will be used to conduct market research along with the development of milling, blending and processing information at the Northern Crops Institute in Fargo. Information analysis will provide direction whether it is feasible to develop and operate a corn ingredient facility in North Dakota.

NORTH DAKOTA CORN GROWERS ASSOCIATION

Fargo

North Dakota was recently selected out of several states as the site for the National Agricultural Genotyping Center. The National Corn Growers Association selected North Dakota State University in Fargo as a site where researchers, scientists and growers can apply testing procedures to evaluate crops, livestock and develop field test kits.

The need for a genotyping center developed after a series of events. In 2009, the corn genome was successfully mapped following extensive research efforts by the National Corn Growers Association. They then partnered with Los Alamos National Labs to develop a more advanced method of corn genotyping that researchers believed could be applied to all types of crops, helping identify crop and livestock diseases, increase production and lower costs. They needed a place to conduct research.

The North Dakota Corn Council invited National Corn Growers Association to make the prairie state its home. APUC grant money was a portion of the \$1 million the North Dakota Corn Growers committed for genotyping center funding.

"The APUC funds were a piece of a national site bid proposal to attempt to land a high quality national research center in our region," explains Tom Lilja, executive director of the North Dakota Corn Growers Association. "We are very excited about this research opportunity for our region."

Construction is underway on the research lab at the USDA Red River Valley Agriculture Research Center with completion expected in March 2015.

A close-up photograph of several young green seedlings growing in a black plastic nursery tray. The seedlings have two leaves each and are spaced out in the tray. The background is blurred, showing more seedlings and soil.

FARM DIVERSIFICATION GRANT

Farm Diversification Grants give priority to projects dealing with the diversification of a family farm to non-traditional crops, livestock, or on-farm, value-added processing of agricultural commodities. Traditional crops and livestock are generally defined as those that the North Dakota Agricultural Statistics Service maintains statistics on. The project must have the potential to create additional income for the farm unit.

Aspen Aquaponics*Keith Knudson, Bottineau*

Grant Amount: \$ 26,000

Total Budget: \$ 33,500

Funding will be used to expand operations with product packaging for the retail market. Target markets will be on-farm, farm-to-school, CSA (community supported agriculture) and retail sales. The company plans to complete a feasibility study and prepare a business plan prior to expansion.

Black Leg Ranch*Jeremy Doan, McKenzie*

Grant Amount: \$ 10,500

Total Budget: \$ 21,673

Funding will assist in the purchase of meeting room equipment for use during corporate events, farm tours and team building activities.

Black Leg Ranch*Jay Doan, McKenzie*

Grant Amount: \$ 26,250

Total Budget: \$ 89,124

Funding will be used to purchase commercial wine making equipment. Black Leg Ranch will use locally grown fruit to make wine, housing the operation in an existing facility.

Bryan and Karri Stroh*Tappen*

Grant Amount: \$ 26,250

Total Budget: \$ 60,499

Funding will be used to build a certified kitchen and wash/pack plant in order to increase vegetable and fruit production and add additional income to farm operations. Funds will be used for equipment and building materials.

Buchholz Machine Tool*Todd Buchholz, Lehr*

Grant Amount: \$ 26,250

Total Budget: \$ 221,250

Funding will help establish an on-farm CNC milling machine shop. Buchholz Machine Tool will produce parts for area manufacturers as well as products such as an ice auger extension sold through quality fishing supply stores.

Crocus View Farms*Carie Moore, Rock Lake*

Grant Amount: \$ 5,408

Total Budget: \$ 10,208

Funding will be used to purchase equipment and supplies to establish a family-friendly rural environment. Crocus View Farms will provide an educational and informative rural experience to community groups such as schools, 4-H camps, Girl/Boy Scouts and families. Services include, but are not limited to: baked goods, garden produce and egg sales, fall pumpkin patch and corn maze, hands-on animal experiences, bale climbing, and many other rural environmental activities.

Morning Joy Farm

Annie Carlson, Mercer

Grant Amount: \$ 26,250

Total Budget: \$ 48,695

Funding will enable Morning Joy Farm to use their farm products to meet consumer demand for ready-to-eat foods and baked goods.

Stuberg Ranch

Jady Stuberg, Leeds

Grant Amount: \$ 26,000

Total Budget: \$ 58,505

Funding will be used towards the development of a genetically superior whitetail deer, which will be sold to deer farmers and hunting ranch owners across the United States.

MORNING JOY FARM

Annie Carlson, Mercer

Growing up on conventional farms in North Dakota, John and Annie Carlson developed a keen love for agriculture. When they were ready to go on their own, they decided they did not want to farm the kind of large commercial operations their families ran. The Carlsons favored the community supported agriculture (CSA) model and founded Morning Joy Farm in 2008.

After a successful launch with vegetables, the Carlsons added pastured poultry to the mix and relocated to the farmstead where Annie grew up in Mercer, North Dakota. They have since added pastured eggs, pastured pork, pastured turkey and grass-fed lamb to their product line.

A quick look at their website confirms Morning Joy Farm is in high demand: Most products are currently sold out. “The pasture poultry business just exploded,” explains Annie Carlson. “It sold out right away, and we are seeing our business tripled by current customers ... they are just buying more of what we have.”

APUC funds allow Morning Joy Farm to address growing demands for pastured goods and explore other avenues for product distribution. The Carlsons used APUC funding to add a commercial kitchen to an existing building so that they could extend their product line by repurposing their byproducts for the end consumer.

“I can take whole shoulder bones to the kitchen and make them for stock ... the kitchen adds insulation to our business because I can do something with what traditional producers might consider throw away,” says Annie Carlson. A professional grade vacuum sealer purchased with APUC funds allows Annie to seal stocks, ground pork meatballs and other meals for her customers.

“People want the convenience of clean food that’s good, and I can provide that,” says Annie. “They just don’t know how to cook the other pieces of the meat. I love the customer involvement in the CSA ... and funds from APUC will help get us to a place where we won’t have to turn away new customers.”



MARKETING & UTILIZATION GRANTS

Marketing & Utilization Grants provide necessary assistance to the research and marketing needs of the state by developing new uses for agricultural products and by-products, and by seeking efficient systems for processing and marketing these products. It also is used to promote efforts that increase productivity, provide added value to agricultural products, stimulate and foster agricultural diversification and encourage processing innovations.

Crunchfuls North Dakota*Sandeep Shenoy, Minot*

Grant Amount: \$ 56,000

Total Budget: \$ 111,000

The funds will be used to build a direct sell marketing business for value-added agricultural products from North Dakota. This business will leverage the bean-based functional platform marketed under the Crunchfuls brand, including cereals, snacks and bars.

Bio-Sunn Corporation*Stevan DeWald, Garrison*

Grant Amount: \$ 92,000

Total Budget: \$ 446,500

Funds will be used for the final feasibility study necessary to apply for USDA, State and private financing to construct a landmark plant in Walhalla. The plant will manufacture ethanol, gas methane, waste stream by-products, flax composites and treeless paper products.

BisMan Community Food Cooperative*Angie Oberg, Mandan*

Grant Amount: \$ 30,000

Total Budget: \$ 39,000

Funds will be used to support the continued efforts to hire a consultant to develop a business plan, marketing plan, site selection analysis, store design and layout, and a revised pro forma based on a specific retail location.

c2renew*Corey Kratcha, Fargo*

Grant Amount: \$ 117,000

Total Budget: \$ 192,000

Funding will support North Dakota businesses with bio-based materials development. c2renew will partner with three North Dakota companies to develop new bio-based material for new and existing products as well as create new products and materials.

Cloverdale Foods Company*T. J. Russell, Mandan*

Grant Amount: \$ 101,000

Total Budget: \$ 353,539

Funds will be used to develop, initiate and maintain the Big Flavor Tour which includes a promotional trailer, diesel truck, Cloverdale Brand Ambassadors and Cloverdale product. Additional digital media efforts such as social media, web and video interaction will be vital to the ongoing success of the tour.

Cummings Ag*Tracy Bjerke, Buxton*

Grant Amount: \$ 58,069

Total Budget: \$ 98,565

Cummings Ag provides the service of processing barley to remove ergot for commercial processing, marketing and brokerage companies. Funds will be used to implement a marketing plan promoting this service in the marketplace. Efforts include new branding, website development, radio and print advertising, digital advertising and trade show displays.

Earth Kind

Kari Block, Bismarck

Grant Amount: \$ 112,000

Total Budget: \$ 172,000

Funds will be used for advanced product development on current products and exploration and testing on new products. This includes research, development and industrial trial of new minor use pesticides for controlling common pests such as mice, rabbits, fleas, etc., using all-natural residual biomass from various agricultural plants and processes throughout North Dakota.

Endless Harvest

Lance Brower, Oakes

Grant Amount: \$ 76,000

Total Budget: \$ 280,000

In order to grow leaf lettuce for North Dakota and Minnesota, funding will assist Endless Harvest to engineer and build a half-acre controlled environment agriculture facility to “prove concept” on a larger 2.7 acre facility. This engineering will also be used to build the 2.7 acre facility.

Fessenden Co-op Association

Mark Hovland, Fessenden

Grant Amount: \$ 21,000

Total Budget: \$ 33,000

Funding will be used for an engineering study and business plan to determine the feasibility of converting an existing facility into a high-volume feed pelleting plant that will produce complete supplemental feeds for livestock. The product to be marketed after the completion of the feasibility study is a new concept, high-valued, complete supplemental feed, manufactured using low-value by-products and screenings of North Dakota cereal grains and oilseeds.

Golden Growers Cooperative

Scott Stofferahn, Fargo

Grant Amount: \$ 75,000

Total Budget: \$ 110,000

This project will assess the market for current and potential food ingredients, feed and renewable chemicals utilizing products from a corn wet mill facility. The project will also estimate the value of a corn wet mill based under various future market conditions.

Great Plains Processing

Kevin Kvamme, Fargo

Grant Amount: \$ 81,000

Total Budget: \$ 555,000

Funding will assist the efforts of Northern Plains Grain & Milling to give North Dakota farmers additional value-added options in crop rotations via marketing assistance for promoting specialty crops.

Maple River Distillery

Greg Kempel, Casselton

Grant Amount: \$ 19,950

Total Budget: \$ 51,950

Funding will be used in the marketing and promotion of North Dakota spirits, including chokecherry brandy.

Northern Food Grade Soybean Association

Robert Sinner, Casselton

Grant Amount: \$ 35,000

Total Budget: \$ 55,000

Funding will be used to cultivate education and outreach through radio, print, digital advertising, social media, video production, trade show booths and media tour.

Pembina/Walsh County Livestock Processing Committee

John Langerud, Edinburg

Grant Amount: \$ 42,000
Total Budget: \$ 57,500

Funds will be used to prepare a business plan for the development of a multi-species meat processing plant. The plant is planned for a Pembina or Walsh County location.

Prairie Roots Food Cooperative

Tim Mathern, Fargo

Grant Amount: \$ 30,000
Total Budget: \$ 40,000

Funds will be used to spearhead the marketing of Prairie Roots Food Cooperative to community members and to secure significant financial commitments from community partners.

Red River Regional Council

Dawn Keeley, Grafton

Grant Amount: \$ 28,361
Total Budget: \$ 37,223

Funds will aid the Red River Regional Council (RRRC) in conducting a feasibility study to proceed with developing the power plant at the Life Skills and Transition Center, formerly the State Developmental Center. The goal is to provide electricity, thermal output and CO₂ (carbon dioxide) sequestration to power, heat and enhance plant growth for future greenhouses and crop production.

Renuvix

Dean Webster, Fargo

Grant Amount: \$ 91,000
Total Budget: \$ 167,800

Funds will be used to obtain market information and customer contacts for product sampling.

Renuvix

Dean Webster, Fargo

Grant Amount: \$ 59,250
Total Budget: \$ 88,050

Funds will be used to generate marketing materials, a trade show booth and participation in six trade shows to promote Renuvix's initial line of products. Products include sucrose soyate, epoxidized soyate, and acrylated epoxidized sucrose soyate.

Ultra Green Packaging

Dave Steffen, Devils Lake

Grant Amount: \$ 74,880
Total Budget: \$ 151,318

Funding will be used for trade show attendance, booth graphics, website design, brochure design costs, catalogs, sell sheets and product samples.

United Pulse Trading

Eric Bartsch, Bismarck

Grant Amount: \$ 90,610
Total Budget: \$ 251,000

Funds will be used to cover the travel and trade show expenses used in promoting pulse-based ingredients.

Velva Community Development Corporation

Randy Hauck, Velva

Grant Amount: \$ 61,000

Total Budget: \$ 68,500

Northern Livestock Auction was recently closed when the lease on their land was terminated. Livestock producers from the region have organized in an effort to determine the feasibility of building a new facility in the Minot area. Funding will be used to hire a third party consultant to analyze the opportunity for a new livestock auction and make recommendations relating to business location, size and scale.

WADF 03

Jerald Bergman, Williston

Grant Amount: \$ 50,000

Total Budget: \$ 134,000

Funds will be used to establish the brand and marketing of MonDak Gold potato. Additionally, funds will be used to generate potato seed for future market production.

Woodshed Renewables

David Fiebelkorn, Finley

Grant Amount: \$ 87,593

Total Budget: \$ 317,138

Funding will be used for a marketing study of blended agricultural crop residue and value-added commercial pellet applications, in particular clean-up related to fossil fuel production. The study will generate data on market volume in a 200-400 mile radius around Finley. Funds will also be used for trade show attendance, package design and prototyping, website development and promotions.

Cloverdale Food Company

Mandan

Don Russell's Big Flavor Tour features a 40-foot trailer, with a complete kitchen, traveling across the region to prepare Cloverdale products for customers.

"The Big Flavor Tour was developed to build a deeper relationship with consumers through product sampling and interaction," says T.J. Russell, president and CEO of Cloverdale Foods Company. "The tour includes exclusive recipes, coupons and freshly prepared Big Flavor products. Cloverdale created a logo and tagline for the Flavor Tour, as well as the graphics used to wrap the Big Flavor Tour trailer."

APUC funds were used to develop the Big Flavor Tour including a promotional trailer, diesel truck, Cloverdale Brand Ambassadors and Cloverdale products. Additional digital media efforts such as social media, web and video development were also developed to promote the tour.

The tour is named after Cloverdale's third generation owner, Don Russell, who carved a lasting legacy in the company. Don's love for barbecue and smoked meats led Cloverdale to focus on quality processed meats which is still the main focus of the company today.

Since 1915, Cloverdale Foods Company has grown and evolved to meet the ever changing needs of their customers. Cloverdale Foods Company remains family owned and committed to offering super premium pork, packed with unsurpassed flavor and quality.



NATURE BASED AGRITOURISM GRANTS

Nature Based AgriTourism Grants are for enterprises which seek to attract visitors to a working farm or ranch, or any agricultural, horticultural or agribusiness operation to enjoy, be educated or be involved in activities.

Eligible projects include but are not limited to farm or ranch tours, hands-on chores, self-harvesting of produce, hunting operations, fishing operations located on applicants' land, bird watching, trail rides and corn mazes.

Red Barn & Berry Farm

Karen Gehrig, Kindred

Grant Amount: \$ 26,250

Total Budget: \$ 51,250

Red Barn & Berry Farm is eastern North Dakota's first rustic wedding and event venue. Funding will be used to expand operations for weddings and events.

Rolling Plains Adventures

Jay Doan, McKenzie

Grant Amount: \$ 10,500

Total Budget: \$ 21,763

Funding will assist in the costs associated with integrating cover crop/food plot area. The crop/food plot area will add awareness and education regarding soil health while maintaining a better environment for wildlife.

Rolling Plains Adventures

Jeremy Doan, McKenzie

Grant Amount: \$ 26,250

Total Budget: \$ 119,515

Funds will be used to purchase and plant a ten seed variety cover crop/food plot. This cover crop/food plot will enhance the wildlife population while maintaining soil health and increasing agritourism operations.

Very Berry Patch U-Pick

Mirek Petrovic, Rugby

Grant Amount: \$ 21,000

Total Budget: \$ 43,776

Funds will be used to purchase U-Pick berry shrubs and plants, food packaging containers and hanging strawberry baskets, as well as irrigation, fencing, netting and mulching supplies.

RED BARN AND BERRY FARM

Karen Gehrig, Kindred

The Red Barn and Berry Farm is a wedding and berry farm set picturesquely amongst rolling sand hills framed by rows of raspberries and fields of native prairie grasses. The farm seems to invite visitors to feel they have stepped back in time. If you ask owners Chris and Karen Gehrig, they will tell you Red Barn and Berry Farm is actually taking giant strides forward.

"We launched Red Barn and Berry Farm to share the beauty of North Dakota's prairie grassland and to provide the rustic country feeling through our wedding barn and raspberry patch," says Chris Gehrig. After relocating the barn near Kindred in 2010, the couple and their four children focused on the raspberry patch first. The family has now turned their heaviest attentions to the Red Barn/wedding share of the business.

"We have saved and planned ... and we have the support of the city of Kindred, as well as the support of APUC, to help make this wedding barn a reality," explains Gehrig. APUC funds were used for branding and social media efforts and helped defray costs for construction efforts to shore up structural aspects in the barn.

The Gehrigs foresee future expansions both inside and outside the barn, and look to their customers for suggestions on improvements. The couple also lists the APUC board as a source for ideas and support. "The APUC grant was a game changer," explains Chris Gehrig. "This grant enabled us to move our business from the dream column to the reality column ... with the funds to renovate, we gained more than material improvements - we gained emotional momentum in our business."



PROTOTYPE DEVELOPMENT & TECHNOLOGY GRANTS

APUC provides grants in two areas of agricultural innovations: Prototype Development & Technology Grants. A huge array of equipment can be useful in conducting business in rural living and agricultural economics. Prototype Grants are restricted to inventions improving the operations of food processing equipment and agricultural equipment. Technology Grants are to encourage innovation and APUC maintains a broad view of technology, such as hardware, software, devices or processes. Biotechnology will be considered as long as those advances improve agricultural product utilization as food, feeds, fuels and fiber.

Napasol North America

Ryan Kucker, Fargo

Grant Amount: \$ 26,000
Total Budget: \$ 380,000

Funds will be used for costs associated with a patent application for Napasol’s new rotative steam-vacuum pasteurization unit. Funds will also be used to defray the costs of constructing a testing facility to conduct research and development of vacuum-steam pasteurization.

Trojan Hoist Company

Scott Thompson, Hettinger

Grant Amount: \$ 25,000
Total Budget: \$ 50,000

Funding will be used to develop and test a portable above ground lift, produce several prototypes for destructive testing and non-destructive testing and end-user evaluation. The effort is likely to include substantial prototype redesign based on end-user feedback and feedback from vendors who will produce the hoists in volume. Sales efforts will continue targeting large scale early adapters, national retail/distribution chains, major website catalog vendors, and nationwide direct outlets in vehicle outfitting, sportsmen, AG/implement/trailer, government and assisted mobility industries.

WCCO Belting

Thomas Shorma, Wahpeton

Grant Amount: \$ 25,000
Total Budget: \$ 54,500

WCCO Belting is examining new rubber compound formulations for rubber belting applications that utilize soybean or agricultural oils as a substitute for aromatic (petroleum-based) oil. Funds will be used to defray testing and development costs of newly formulated rubber compounds using soy or other bio-oils in place of aromatic oils. At least two field trials will be required for the testing of various compounds to evaluate characteristics for wear, abrasion, UV resistance, etc.

WCCO BELTING

Thomas Shorma, Wahpeton

Like many small businesses, WCCO Belting had humble beginnings. In 1954, Korean War veteran Edward Shorma paid \$1,500 in borrowed money for a Wahpeton, North Dakota shoe repair business. Soon after, Shorma modified his business model when he saw additional opportunities for his cobbling skills in the agriculture industry. Today, Wahpeton Canvas Company (WCCO) Belting is a national award-winning, multi-million dollar specialized rubber manufacturing exporter that conducts business in agriculture, industrial, construction and recycling industries all across the globe. One of Edward Shorma's sons, Tom Shorma, sits at the helm of the company as CEO/President.

In keeping with the founder's entrepreneurial spirit, this family-owned business has upheld a tradition for product innovation and improvement. WCCO's engineers have spent the last two years working closely with a long-time rubber supplier to design a compound that is more "green" than traditional petroleum-based rubber. They are using a product their agricultural customers produce: Soybeans.

APUC funds were used to purchase prototype raw materials, rubber testing equipment and for other manufacturing costs to develop the new compound. "A project of this magnitude requires the meticulous attention of WCCO's executive staff and senior engineers," says Shorma. "The funds from APUC allowed our engineers to be on-site with our rubber and calendering vendors to closely monitor the project's process and move it forward to a place where WCCO would be the first-to-market with this technology."

"The best part of this project is that if we benefit, our customers benefit ... WCCO's success with this new product will open a new market for soybean farmers," explains Shorma. "Our initial test results report that the green version of our rubber formula not only meets our standard specification, but it has a significantly higher resistance to abrasion (wear)."

WCCO Belting plans to launch its soybean oil products in early 2015 to two channels, four industries, both nationally and internationally.

SPONSORSHIPS

NDSU Extension Service

Cynthia Selstedt, Fargo

\$ 1,000 Sponsorship

Sponsorship supports NDSU Extension Services educational offerings held on a variety of agricultural topics.

North Dakota FFA Foundation

Beth Bakke Stenehjem, Bismarck

\$ 1,000 Sponsorship

Sponsorship supports the Ag Processing Proficiency awards and travel stipends for the proficiency finalists to attend the National FFA (formerly Future Farmers of America) Convention.

North Dakota FFA Foundation

Beth Bakke Stenehjem, Bismarck

\$ 1,000 Sponsorship

Sponsorship supports the National FFA Organization Proficiency Award for Value-Added Food Processing.

Williston Regional Economic
Development Corporation

Ann Kvande, Williston

\$ 1,000 Sponsorship

Sponsorship supports the NDSU Williston Research Extension Center Field Day and the Mon-Dak Ag Showcase.

Williston Regional Economic
Development Corporation

Ann Kvande, Williston

\$ 1,000 Sponsorship

Sponsorship supports a joint event held by Williston and Nesson Valley, MT. This event coincides with the dry land and irrigation field days held out at the NDSU Williston Research Extension Center.

NDSU EXTENSION SERVICE RURAL LEADERSHIP

Fargo

Many North Dakotans are eager to develop their communities but are uncertain about how or where to start. Rural Leadership North Dakota (RLND) is a statewide leadership development program offered through North Dakota State University Extension Services that unites people across North Dakota who are committed to strengthening their communities. A map featured on RLND's website shows the more than 60 North Dakota communities from where program participants have come.

"The Rural Leadership program is offered through NDSU's Extension Service for adults across the state who want to learn more about themselves and their communities," explains Marie Hvidsten, RLND Program Director. "It's specifically geared toward towards individuals who are considering leadership roles in agriculture or community development." Individuals must apply or be nominated to

the program, which consists of an 18 month commitment with 10 different seminars. Seven of those seminars occur across North Dakota, and the other three are held at regional, national and international levels. APUC funds were used to pay for meals for RLND students attending a state seminar.

"Each RLND class has an average of 20 students so the food bills can grow quickly at these events," says Hvidsten. RLND students pay course tuition and Extension Services defray some of the costs. Outside sponsorship supports 1/3 of program costs.

"We are very grateful for the sponsorship of organizations like APUC," says Hvidsten. "Without the generous support of our sponsors, RLND simply wouldn't be able to continue."

TECHNICAL ASSISTANCE

Amberland Foods

Tami Feist, Harvey

Grant Amount: \$ 23,515
Total Budget: \$ 200,515

Funding will be used for a new warehouse and retail store located in Harvey. The grant will provide for a productive working area as well as updated software and hardware to meet growing needs.

Blue Flint Ethanol

Adam Dunlop, Underwood

Grant Amount: \$ 5,375
Total Budget: \$ 7,875

Funding will be used for Lean Production Process (LPP) assessment. LPP concepts drive proactive actions by making any anomalous condition visible to employees, thus increasing profitability. This project will use expertise from Dakota Manufacturing Extension Partnership to help gauge program effectiveness and offer recommendations for improvements.

Cloverdale Foods Company

Sam Towner, Mandan

Grant Amount: \$ 25,083
Total Budget: \$ 35,000

Heightened consumer demand for increased food safety assurances is being pushed by retailers to their suppliers, requiring verifiable proof that robust food safety control systems are being effectively implemented. Funding will be used for consultant fees for services rendered by Dakota Manufacturing Extension Partnership, assisting in the implementation of Level 2 Safety Quality Foods Program to meet quality improvement standards.

Dakota Specialty Milling

Bryan Hendricks, Fargo

Grant Amount: \$ 25,226
Total Budget: \$ 36,960

Funds will be used towards consultant fees to determine actual manufacturing capacity, factors limiting capacity and optimize manufacturing efficiencies. The work will include value stream mapping, kaizen activities, and training in lean manufacturing to help utilize all existing manufacturing capacity and increase efficiency.

BLUE FLINT ETHANOL

Adam Dunlop, Underwood

MidwestAgEnergy Group's Blue Flint Ethanol is a company looking for ways to be innovative and efficient. Its location alone is a testament to this. The biorefinery is located adjacent to one of North Dakota's largest power plants - the Great River Energy's Coal Creek Station. Blue Flint Ethanol uses the waste steam from Coal Creek Station to provide process energy to make ethanol and to dry distillers grains.

Through such optimization and innovation, Blue Flint Ethanol has steadily increased output from 50 million gallons per year to 65 million gallons per year. Blue Flint Ethanol purchases 23 million bushels of corn from local farmers each year, and sells E85 to retail fuel stations across the state. The refinery also produces dried and modified distillers grains for livestock and corn oil for biodiesel production.

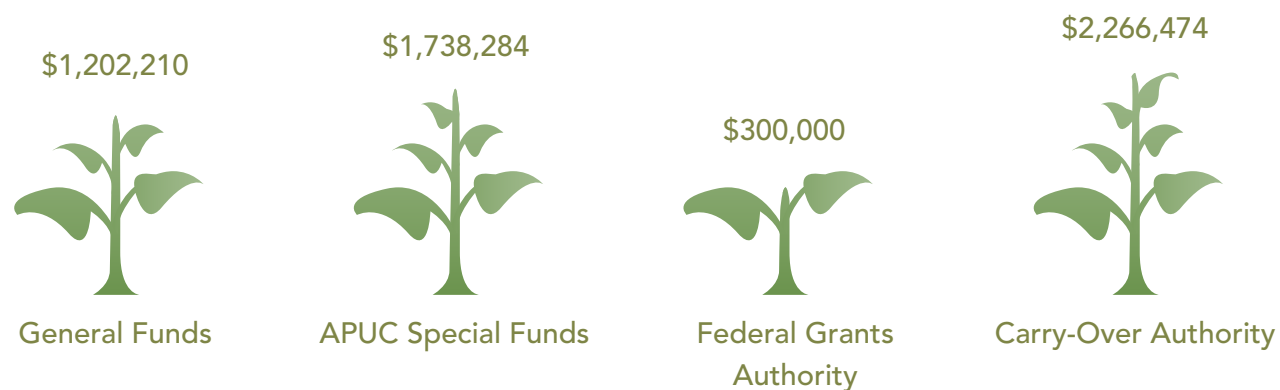
Blue Flint Ethanol recently used APUC funds to hire an outside consulting firm to evaluate whether its lean manufacturing processes were in sync with

organizational goals. A lean manufacturing process is a systematic method of eliminating waste in a given manufacturing process.

"We believe in implementing lean practices at Blue Flint Ethanol," explains Adam Dunlop, director of Regulatory and Strategic Planning. "We also believed it would be beneficial to bring in an external set of eyes to evaluate our practices ... so we hired experts from Dakota Manufacturing Extension to audit our process and help us see where we are at on our lean manufacturing journey." The firm spent two days evaluating the facility and interviewing employees, according to Dunlop.

"Overall, our lean practices are good," says Dunlop. "There were a few findings and opportunities for us that came out of the review, so that is where the value in the investment lies."

FUNDING SOURCES



APUC's appropriation for the 2013-2015 biennium totaled \$5,506,968 and was provided from the following sources:

- Up to \$1,738,284 was authorized to be collected from the APUC Special Funds, funded by a \$.02 "check-off" of farmers' off-road gas tax refunds.
- \$1,202,210 was appropriated directly from the state general fund.
- At the beginning of the biennium an additional \$2,266,474 was authorized as carry-over authority from the previous biennium.

Financials as of September 30, 2014

	Expenditures	Budgeted
Salaries & Benefits	\$ 202,964	\$ 190,547
Operating Expenses	\$ 45,965	\$ 60,494
Grant Commitments *	\$ 2,731,189	\$ 3,190,814
Total Expenditures	\$ 2,980,118	\$ 3,441,855

Remaining Appropriation: \$ 2,728,075

* Includes current plus carry-over commitments



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